Digital Arizona Council (ABDC)

ASET Broadband Team's Status and Update

February 9th, 2012

Challenge remains: How do we not end up with another three ring binder with a great policy sitting on the shelf after four years and having spent $10 million on mapping and planning

Mission continues: Implement a sustainable, leveraged broadband plan for accelerating transformation of economic growth, education, healthcare, and business in Arizona.

Primary Approach: Deploy conduit along frontage roads and state highways to be leased to providers at cost to facilitate availability of Internet middle-mile capacity to support providers' investments in more and faster services for rural Arizona.

Why does it matter…
JOBS and GDP Impact (new hard data)

2007 MIT Study

- In Counties with Broadband Deployment the Sales Per Capita Grew Almost Twice as Fast as Counties Without
- Broadband Deployment Increased Employment by Over 5 Percent
- Larger Impact in Smaller, Rural Communities

2011 Chalmer University Study

- Every Doubling of Broadband Speed Increased GDP By 0.3%
- If applied to Rural Arizona could potentially have the following impact:

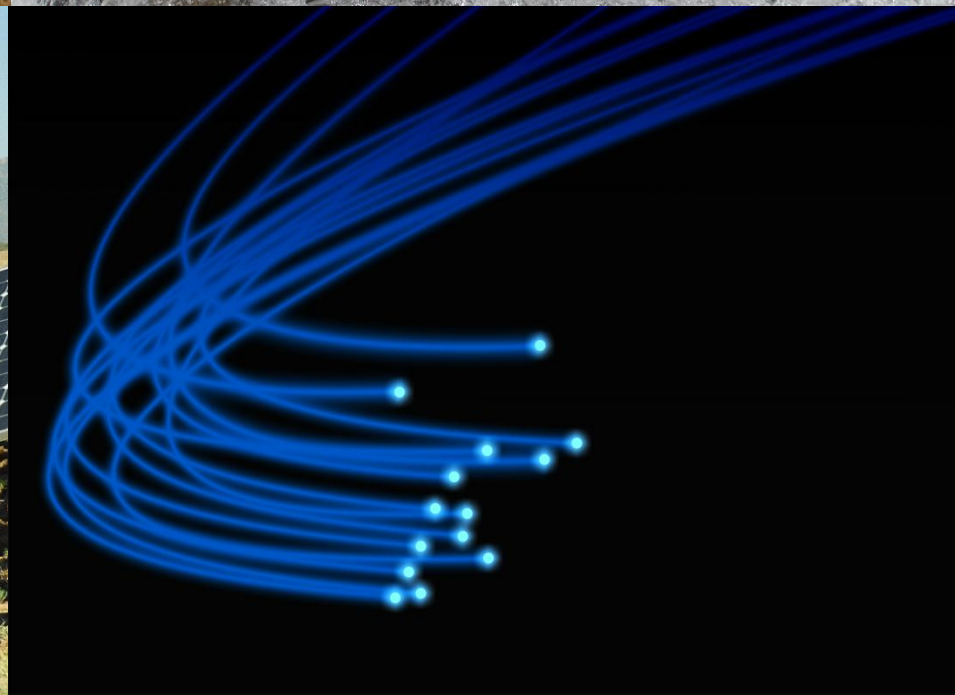
AZ Annual GDP $277 Billion
X 15% (Rural Portion of AZ GDP)
X .6% (4x Increase in Rural Broadband – 1mb to 4mb)
= **$249 million potential AZ Rural Increase / Year**

2011 McKinsey Global Institute

- The Internet Accounts for 21% of all GDP Growth Over the Last 5 Years in Developed Countries

Accelerate Capacity with Lean Government Harness Existing Taxpayer Owned Assets

- Leverage Public Rights-of-way
  - Two Highways for (nearly) the cost of one
- Recommend Permitting and Easement Best Practices
- Leverage Existing $6.3 Million Federal Grant Into Sustainably Funded Mechanism For Acceleration of Digital Capacity Build-out
- Provide Long-range State-wide Planning



Digital Arizona Council (formerly ABDC)

- Council has Twenty Members
- Representation from:
  - ADOT
  - ADE
  - Large Providers
  - Small Providers
  - Rural & Urban Communities
  - Healthcare
  - Education
  - Rural Economic Development (COGs)
  - Business Entities via ATIC and AZTEC
- Six Task Groups—67 participants 22 four-hour meetings to date. Detailed input from Providers, ADOT, ADE, ACC Communities, Health Providers/Payers, Economic Developers

Council Task Groups

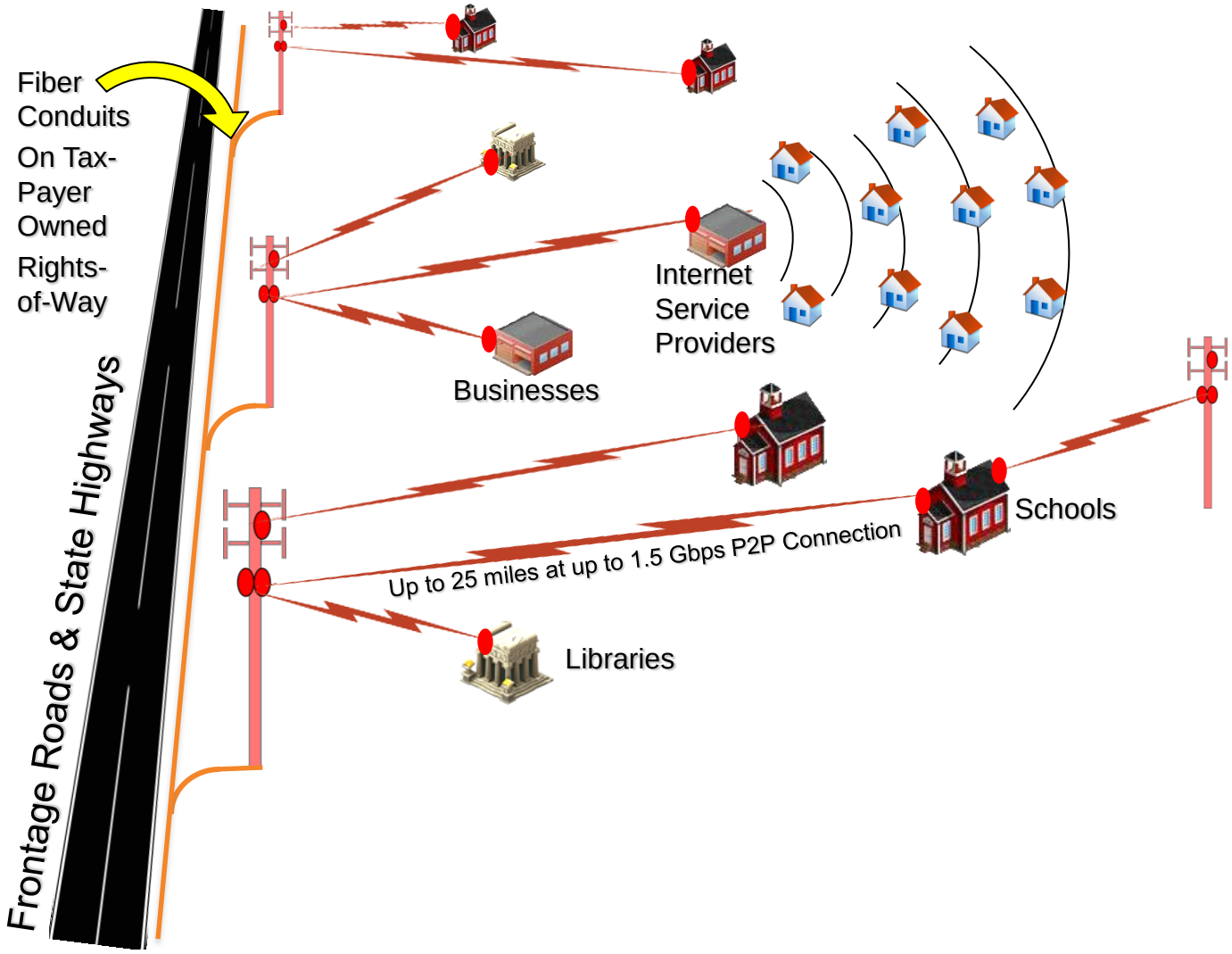
22 meetings 67 participants to date

- Public Policy Recommendations
  - State Broadband Strategic Plan & Map Use
  - Best Policy Practices
    - Implement Independent Rights-of-Way Study Recommendations
    - Tax Policy
    - Sustainable Funding Model
  - Sustainability of Broadband Capacity Growth by private sector
- Rural Community Engagement
  - Demand Aggregation
  - Middle Mile Solutions
  - Provider ROI Enhancement
  - Community Technical Assistance
- Economic Development via Broadband
  - Technical Assistance To Communities
  - Application Demonstrations
    - eLearning—Distance Learning
    - eHealth
    - eCommerce
    - eGovernment
    - eQuality-of-life
- Application Demonstration Projects to justify funding and investment models and strategies

ASET Success Measures

- Non-Metro Broadband Capacity Increased By 20% by 2014 over current baseline
- Non-Metro Broadband Adoption Increased By 20% over current baseline by 2014
- Increased Middle Mile Capacity (Both Gigabits/Sec Per Mile & Actual route miles) Increased by 100% against current baseline by 2015.
- Increase miles of public rights-of-way re-use by 200% by 2014
- Minimum of 1 Gbps To Every School In Arizona by 2015
- Sustainable Funding Model Established by 2012

Digital Arizona Model



"Two Highways For "Nearly the Cost Of One"

Conduit and Low Cost High Capacity Wireless

5 Year Estimate

- $25K per rural conduit trench mile
- ~2500 to 3000 rural trench miles
- $10M to $15M per year
- Whole State covered in 5 to 7 years
- Program can then be “sunset” to maintenance only mode

Conduit trenches have essentially infinite incremental capacity:

(Up to 43 Million Gbps along any single highway)
(or 21 million potential 1.5 Gigabit Radio Beams)

1 Cell Tower - Ten 1.5- Gpbs Beams (15 Gbps)
Translates to:

- One Hundred and Fifty – 100 megabit simultaneous Internet connections
- Six Hundred – 25 megabit simultaneous Internet connections
- 1800 simultaneous different high-def TV streams
- 5400 Internet Hi Definition IPTV subscribers

Digital Highway Bills Have Wide Support

- The ADOT Director enabled to construct trenches with multiple fiber conduits and cell tower sites along rural ADOT managed highways rights-of-way
- Conduits will be made available to qualified carrier-class providers on a cost-recovery lease basis
- Lease pricing will be non-discriminatory
- Funding for conduit construction must come from sources other than existing ADOT funding or general fund
- ADOT will manage all engineering and physical construction and traffic safety issues around the construction

Digital Arizona Infrastructure Office Bill

- Creates a Digital Arizona Infrastructure Office within ADOA
- Digital Arizona Infrastructure Office will have the authority to receive funding and distribute funding in support of broadband infrastructure projects
- Create voluntary permitting guidelines for accelerating permitting processes for broadband.
- The Office will manage pricing for and access to Digital Highway conduits by providers
- The office will coordinate with ADOT, the Digital Arizona Council and the providers in the determination of when and where conduit construction will occur
- Office will provide long range broadband strategic planning

Funding

- No funding in the legislation
- Seed capital needed to start development – revenue from leased conduit can pay for additional capacity
- Providers may potentially invest in upfront development
- Seeking additional federal funding

Questions?